REMARKS

Claims 1-7, 9-15, and 17-26 are presently pending in the application. Reconsideration and allowance of all claims are respectfully requested in view of the following remarks.

Claim Objections

Claims 1, 9, and 17, are objected to for reasons of grammar. Claims 1, 9, and 17, have been amended to correct for any grammatical errors noted by the Examiner. Thus, this objection should now be withdrawn.

35 U.S.C. §112 Rejections

Claims 1-7, 9-15, and 17-26 stand rejected by the Examiner under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject mater which applicant regards as the invention.

Claims 1, 9, and 17, have been amended to clarify that the lens is used in measurement of the thickness of the wafer and the datum slice. Accordingly, the rejection of Claims 1-7, 9-15, and 17-26, should be withdrawn.

Claims 24-26 have been rejected by the Examiner under 35 U.S.C. §112, second paragraph, as being indefinite, since the claims claim both an apparatus, a measuring system, and method steps. Further, Claims 24-26 have been rejected under 35 U.S.C. §101 as they are neither directed to a "process" nor a "machine".

Claims 24-26 have been rewritten into means-plus-function format to further define the present structure of the invention. Accordingly, the rejection of Claims 24-26 should be withdrawn.

Claim Rejections

Claims 1-2, 6, 7, 9, 10, 14-15, and 21-25, have been rejected by the Examiner under 35 U.S.C. §103(a) as being unpatentable over Imai et al (USP 5,818,596) in view of Sato et al (USP 5,766,360).

The Examiner alleges that Imai et al. disclose a film thickness measuring apparatus, and Sato et al. teach that film measuring may include measuring the thickness of the wafer before and after film deposition.

Imai et al. disclose "a thickness of a thin film formed on a surface of the sample is measured by irradiating the surface of the sample with a measuring light beam" (see Abstract). Imai et al. also disclose "the illuminating unit and the light receiving unit compose a film thickness measuring system. The thickness of a thin film formed on the surface of the semiconductor wafer W is determined, for example, **on the basis of the phase difference between the laser beam falling on the surface of the semiconductor wafer W and the laser beam L reflected from the surface of the semiconductor wafer W**" (col. 5, lines 5-10).

Sato et al. disclose a substrate processing apparatus and a substrate processing method by which a thin film and the like can be quickly and easily evaluated almost immediately after the thin film and the like have been formed and by which the yield of the growth of the thin film can be increased (col. 1, lines 48-53).

However, the combination of the disclosure of Imai et al. in view of Sato et al. do not teach or suggest "wherein said datum slice is a measuring reference point", as recited in amended Claims 1 and 9; nor "a lens located above said stage that is used in measurement of a thickness of said wafer and said datum slice", as recited in amended Claims 1 and 9.

Further, the thickness measuring method is different between the present invention and the combination of the disclosure of Imai et al. and Sato et al. The present invention recites "means for irradiating a surface of said wafer and the datum slice, wherein data returned from said irradiation is shown on a monitor", in amended Claims 24-26.

In contrast, the combination of the disclosure of Imai et al. and Sato et al. discloses " **on the basis of the phase difference between the laser beam falling on the surface of the semiconductor wafer W and the laser beam L reflected from the surface of the semiconductor wafer W**". The present invention **does not utilize "a phase difference"** to measure the thickness of the wafer. Rather, the present invention utilizes "data returned from said irradiation" to obtain the thickness of the wafer.

In addition, the purging gas is also different between the combination of the disclosure of Imai et al. and Sato et al., and that of the present invention. According to the disclosure of Imai et al., "the purging gas supply nozzles are connected by gas supply pipes through mass-flow controller and on-off valves to an "N_2 cylinder" and an "O_2 cylinder", i.e., purging gas sources a gas to supply a mixed purging gas of "nitrogen gas" and "oxygen gas" into the chambers.

However, the present invention recites a gas which does not comprise "oxygen" or a mixed purging gas of "nitrogen gas" and "oxygen gas". The present invention recites a gas that is an "inert gas" as recited in Claims 6, 14, and 19, or a gas that is "nitrogen" as recited in Claims 7, 15, and 20. Therefore, the combination of the Imai et al. and Sato et al. references do not teach or suggest the above claims of the present invention.

Accordingly, Claims 1, 6, 7, 14, 15, 19, and 20, are not obvious over either the individual or the combination of the Imai et al. and Sato et al. references, and the rejection of Claims 1, 6, 7, 14, 15, 19, and 20, should be withdrawn.

Further, since Claims 2-7 and 21-24 depend from Claim 1, and Claims 10-15 depend from Claim 9, they are also patentably distinguishable over either the individual or the combination of the Imai et al. and Sato et al. references, for the reasons cited above with respect to Claims 1 and 9.

Claims 3, 11, 17, 19, 20, and 26, have been rejected by the Examiner under 35 U.S.C. §103 as being unpatentable over Imai et al. in view of Sato et al. and further in view of Iida et al.

The Examiner is of the opinion that Imai et al. in view of Sato et al. disclose Claims 1 and 9. The Examiner alleges that Iida et al. teach a wafer process apparatus having a valve for a nozzle to control gas into the chamber.

Iida et al. disclose that with respect to" the flow rate adjusting means, a valve is arranged between each of the purge chambers and a purge gas feed nozzle, and the flow rate may be adjusted by opening/closing the valve" (col. 20, lines 7-9).

However, the purpose of the nozzle is different between the combination of the disclosures of Imai et al., Sato et al., Iida et al., and that of the present invention. The present invention recites "said first gas nozzle located on a side of said datum platen and on said transport apparatus" to "exhaust said gas", and "a second gas nozzle located on a side of said stage and on said transport apparatus" to "exhaust said gas in said gas stream", in amended Claim 17.

In contrast, the combination of the disclosures of Imai et al, Sato et al., and Iida et al., disclose that the purge gas is fed in each of the divided purge chambers.

However, in the present invention, the gas is recited as being "exhausted in the gas stream", and the gas is not fed into a "chamber".

Thus, Claim 17 is not obvious over either the individual or the combination of the Imai et al., Sato et al., and Iida et al. references, and the rejection of Claim 17 should be withdrawn.

Further, since Claims 18-19, 20, and 26 depend from Claim 17, they are also patentably distinguishable over either the individual or the combination of the Imai et al., Sato et al., and Iida et al. references, for the reasons cited above with respect to Claim 17.

Claims 4, 5, 12, and 13, have been rejected by the Examiner under 35 U.S.C. §103 as being unpatentable over Imai et al. in view of Sato et al. and further in view of Danese.

The Examiner is of the opinion that Imai et al. in view of Sato et al. discloses these claims. Further, the Examiner alleges that Danese teaches that Venturi pumps and root pumps are typical vacuum pumps for withdrawing fluids.

However, Imai et al. and Sato et al. do not teach or suggest the feature "wherein said datum slice is a measuring reference point", and further, the measuring of the thickness of the wafer is also different in the present invention (see the above arguments).

Therefore, the addition of the Danese reference does not make up for the deficiencies in Imai et al. and Sato et al. Thus Claims 4, 15, 12 and 13 are patentable.

Finally, Claim 18 has been rejected under 35 U.S.C. §103 as being unpatentable over Imai et al. in view of Sato et al., further in view of Iida et al. and further in view of Danese.

However, in addition to the arguments above with respect to Danese, the combination of the applied prior art reference does not teach or suggest the nozzle used to "exhaust said gas in said gas stream". Therefore, the rejection of Claim 18 over either the individual or the combination of the Imai et al., Sato et al., Iida et al., and Danese references should be withdrawn.

If the Examiner believes that there is any issue which could be resolved by a telephone or personal interview, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number listed below.

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee for such an extension is to be charged to Deposit Account No. 04-1061.

Respectfully submitted,

Jean C. Edwards

Jean C. Edwards
Registration No. 41,728

DICKINSON WRIGHT PLLC
1901 L St., N.W., Suite 800
Washington, D.C. 20036
Telephone: 202/659-6946
Facsimile: 202/659-1559

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